

Bat Conservation Trust



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To the Department for Business, Energy and Industrial Strategy,

The Bat Conservation Trust (BCT) would like to thank-you for the opportunity to comment on the UK Offshore Energy Strategic Environmental Assessment 4 (OESEA) Report here [UK Offshore Energy Strategic Environmental Assessment 4 \(OESEA4\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/offshore-energy-strategic-environmental-assessment-4-oesea4). We would like to respond to the consultation specifically on the topic of bats and offshore wind.

BCT was formed in 1991; we are a dynamic, influential and growing national charity. Established by far-seeing individuals who recognised that the combination of challenges to the conservation of bats was unique, BCT is proud to be the leading non-governmental organization devoted solely to the conservation of bats and their environment. Our work represents the gold standard in bat conservation providing a lead for the rest of the world. We work to ensure that bat conservation is acknowledged as an integral part of sustainable development.

We note from the UK OESEA Report the following references to bats:

Pdf pages 17 & 132

'Small numbers of the Natusius' pipistrelle bat occur seasonally over UK waters on migrations between the UK and mainland Europe.'

Pdf page 328-329

*'Less has been done on the occurrence of bats in the offshore environment (on migration) and their potential interactions with renewable developments. Little is known about bat migration ecology, the number of individuals migrating over sea, and the risk of mortality from interactions with offshore wind turbines (Lagerveld et al. 2017). Research has shown bats are more frequently recorded offshore during migration (late March until June and from late August until October), with the most frequently encountered species over the North Sea being Natusius' pipistrelle (*Pipistrellus nathusii*), but common pipistrelle *P. pipistrellus*, common noctule *Nyctalus noctula*, Leisler's bat *N. leisleri*, particolored bat *Vespertilio murinus*, Northern bat *Eptesicus nilssonii*, and Serotine bat *E. serotinus* are also recorded (Boshamer et al. 2008, Lagerveld et al. 2012, Hüppop et al 2016, Hüppop et al 2019). Whilst it is known that bats migrate over the North Sea, it is unknown whether they migrate across in a broad front, or show spatially distinct patterns (Lagerveld et al. 2017).*

The few studies to date have typically resulted in small datasets and have shown contradictory results, with virtually no studies on the spatial and temporal occurrence of bats offshore.'

Pdf page 625 & 659

The evaluation tables in the UK OESEA Report acknowledge there is a potential minor negative impact on bats from offshore wind farms and also that there is uncertainty and little information to quantify risk.

Also relevant is pdf page 50

'The conclusion of the SEA is that alternative 3 to the draft plan/programme is the preferred option. In addition to the high level restrictions associated with this alternative, a number of recommendations are made relating to the management of spatial use and environmental risk, and where there are data gaps for which recommendations are made to prioritise future research.'

We were interested and pleased to read Appendix 1 A1a.7 of the report on bats, which is a reasonable summary of the available knowledge and situation, although please see our comments below.

With reference to the OESEA report we would like to raise the following points:

- We do not have enough information to say that only small numbers of bats cross the North Sea during migration. Limpens *et al.* (2017) describe an approach to estimating migratory populations in the southern North Sea, stating that offshore wind turbines may pose a risk to these bats. Their model produces a preliminary estimate for bats crossing the Southern North Sea of roughly 40,000 individuals (with a range between 100 and 1,000,000 individuals).
- We are interested in the comment that the few studies to date have produced contradictory results, with virtually no studies on the spatial or temporal occurrence of bats offshore. We would contest this, as some of the Dutch and Belgian work describes where bats have been recorded offshore and at what time of year they have been recorded. The Dutch work goes on to describe the environmental conditions in which bats can be found offshore, with some detail in a paper by Lagerveld *et al.* (2021), with the following excerpt taken from the abstract:
'The species' migration is strongest in early September, with east-northeasterly tailwinds, wind speeds < 5 m/s, and temperatures > 15 °C.'
- The conclusion to adopt alternative 3, '*To restrict the areas offered for leasing and licensing temporally or spatially*' is difficult to apply to bats given our limited knowledge and we would suggest that bats and offshore wind are identified as a data gap where further research should be prioritised and the precautionary principle (e.g. proactive curtailment) applied (see last paragraph below).

With reference to Appendix 1 A1a.7 on bats, we would like to raise the following points:

- Section A 1a.7.3.1. Collision: The point is made that information on bats '*flight height offshore, along with the conditions which may influence these flight heights, is limited*'. We agree with this, although Lagerveld *et al.* (2021) comment on this further, acknowledging that one of the limitations of their study is the height of the recorders, which can only record bats up to around 45m above sea level in optimal conditions. They suggest that low flight altitudes may be restricted to coastal waters whilst migration further offshore is likely to be at greater altitude, with migrating bats benefitting from increased tailwind speeds at higher altitudes. Reference to a paper from the USA is made, which recorded bats offshore at altitudes of over 200m above sea level (Hatch *et al.*, 2013).
- Section A 1a.7.4.1. International: This states that *Pipistrelle nathusii* is listed on Annex II of the Habitats Directive but this is not the case (see [Article 17 Habitats Directive Report 2019 \(Species\) | JNCC - Adviser to Government on Nature Conservation](#)).
- Section A 1a.7.4.1. International: No reference is made to the primary legislation protecting bats in the UK, which is the Conservation of Habitats and Species Regulations (2017)(as amended) in England and Wales, the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) in Scotland and The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

- Section A 1a.7.4.1. International: Finally, Eurobats Resolution 8.4 on Wind Turbines and Bat Populations includes the following, which should be recognised in the OESEA:
 - *'Recognising that several bat species forage and migrate offshore and that as a result offshore wind farms may negatively impact bat populations'*
 - A recommendation to parties is to *'Take into account the impacts that onshore and offshore wind turbines have on bat populations on different geographical scales.'*

We recommend that further research on bats and offshore wind is prioritised and funding is provided through the Offshore SEA Research Programme.

Key priorities are to:

- consider different technologies that may be appropriate for research in this area, bearing in mind this is likely to be more complex than onshore research, e.g. acoustic sensors, MOTUS tracking, radar, thermal imaging cameras;
- investigate innovative options for monitoring bat collisions with offshore wind turbines, e.g. acoustic localisation, stereo thermal imaging, WT Bird (which detects vibrations in turbine blades from collisions);
- further our understanding of the spatial and temporal distribution of bats offshore (including the environmental conditions during which they migrate);
- further our understanding of bat behaviour around offshore wind turbines, including flight heights and speeds, flight in the collision risk zone, foraging behaviour and bats staying overnight on offshore infrastructure, which will better enable us to understand collision risk; and
- further our understanding of the likely impact of existing and future offshore wind development on bat populations.

Through discussions with offshore wind developers and owners, we understand that the retrospective fitting of equipment to offshore wind turbines is complicated (expensive, risky, time consuming) and it would be more appropriate to proactively fit acoustic detectors on offshore wind turbines whilst they are onshore, during construction. This will require collaborative working with stakeholders and studies may therefore require a long lead-in time.

Finally, bearing in mind that it will take a long time to collect further information on bat distribution and behaviour offshore and the pace of offshore wind development, the precautionary principle should be applied. In the Borssele wind farm zone in the Netherlands, curtailment during certain times of the year/night (from 25th August to 10th October between sunset and sunrise¹⁾ and in particular environmental conditions (wind speed lower than 6ms⁻¹, also depending on wind direction and temperature combined²) will be applied as standard to all new offshore wind turbines. This means that when developers tender for offshore wind construction in this zone the related (small) energy losses can be accounted for and bidding is carried out on a level playing field.

Curtailment for the UK could be based on information already collected (from the Netherlands and Belgium) about when bats fly offshore and refined as more research data is collected. The bats that are passing through curtailed Dutch offshore wind farms are the same population as those passing through fully operational UK offshore wind farms. As all UK bat species receive strong legal protection at the national and international level, and considering what we know about bats, wind energy and migration, we propose this as an appropriate and effective way forward.

¹ Information provided to the Conference on Wind Energy and Wildlife in Egmond aan Zee, Netherlands between 4-8th April 2022

² As above

References

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